

A GROUP DISCUSSION AT THE
3rd SPACEBORNE IMAGING RADAR SYMPOSIUM

INTERNATIONAL COLLABORATION IN SAR GROUND DATA SYSTEMS

LED BY

JOHN C. CURLANDER
VEXCEL CORPORATION

JET PROPULSION LABORATORY
PASADENA, CA
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SAR GROUND DATA SYSTEMS INTERNATIONAL COLLABORATION

CONSIDERATIONS

- SUCCESS OF FUTURE SPACEBORNE SAR MISSIONS WILL REQUIRE MULTI-AGENCY AND/OR MULTI-NATIONAL COLLABORATION
 - JOINT DEVELOPMENT AND OPERATIONS FUNDING
 - SHARED TECHNOLOGY DEVELOPMENT
- GROUND PROCESSING IS TYPICALLY PERFORMED BY EACH AGENCY FOR THEIR USER BASE
 - LOCAL CONTROL OF DATA PROCESSING QUEUE AND PRODUCT QUALITY
 - COMMERCIAL UTILIZATION, REAL-TIME APPLICATIONS
 - APPLICATION SPECIFIC PROCESSING, GEOPHYSICAL PRODUCTS
- INTERNATIONAL STANDARDS ARE REQUIRED TO ACHIEVE A UNIFORM DATA PRODUCT INDEPENDENT OF THE PROCESSING CENTER
 - COMMON FORMATS: DATA STRUCTURES, COMMON READERS
 - COMMON PRESENTATION: PRODUCT DEFINITION
 - DATA PRODUCT QUALITY STANDARDS: CALIBRATION, ALGORITHMS



SAR GROUND DATA SYSTEMS
INTERNATIONAL COLLABORATION

CONSIDERATIONS - 2

- TO REDUCE THE AGGREGATE COST OF THE GROUND DATA SYSTEMS,
COLLABORATION IS REQUIRED IN DESIGN AND DEVELOPMENT
- EFFECTIVE UTILIZATION OF THE DATA BY AN INTERNATIONAL USER
COMMUNITY
 - INTERNATIONAL HIGH RATE DATA NETWORKS FOR ELECTRONIC DATA
ACCESS: INTERFACES, PROTOCOLS, DATA RATES
 - JOINT MISSION PLANNING SYSTEMS
 - DISTRIBUTED DATABASES
- COMMERCIALIZATION OF DATA PRODUCTS
 - COORDINATION OF POLICIES BY VARIOUS AGENCIES
 - RATE STRUCTURE FOR DATA PRODUCTS
- SECURITY OF DATA SYSTEMS
 - CONTROL OF UNAUTHORIZED DISTRIBUTION
 - CONTROL OF UNAUTHORIZED ACCESS



SAR GROUND DATA SYSTEMS
INTERNATIONAL COLLABORATION

SOLUTIONS

- **COMMITTEES**
 - LESS ADMINISTRATIVE, MORE TECHNICAL
 - INVOLVEMENT OF PROJECT ENGINEERS TO ASSURE IMPLEMENTATION OF RESULTS
 - FUNDING FOR REQUIRED WORK, MEMBERS HELD ACCOUNTABLE TO MEET GOALS

- **ONGOING COMMITTEE WORK**
 - DATA FORMATS: CEOS SAR WG ON DATA IS INACTIVE, FORMAT MUST BE MAINTAINED
 - DATA POLICY: NEW US/CANADA RADARSAT GROUP, EXPAND ROLE
 - CALIBRATION/ VALIDATION: ACTIVE GROUP, CEOS, NO FUNDING



SAR GROUND DATA SYSTEMS
INTERNATIONAL COLLABORATION

SOLUTIONS - 2

- JOINT DEVELOPMENT OF GROUND PROCESSORS
 - ERS-1 BETWEEN > 8 INDEPENDENT DEVELOPMENTS OF SAME OPERATIONAL PROCESSOR: MINIMAL COLLABORATION WITHIN ESA PAFs, NONE OUTSIDE OF ESA
 - US AND CANADA: BOTH EMBARKING ON UNDERFUNDED COLLATERAL EFFORTS TO DEVELOP SAME GROUND PROCESSING SYSTEM, NO INTERACTION
- SHARED TECHNOLOGY
 - WORKING COOPERATIVELY IS ONLY METHOD TO ENSURE UNIFORM QUALITY DATA PRODUCTS FROM NATIONAL PROCESSING CENTERS
 - SHARED DEVELOPMENT IS MAJOR COST SAVINGS
 - RESEARCH COLLABORATION WILL MORE QUICKLY ADVANCE STATE OF ART IN PROCESSING TECHNOLOGY AND ALGORITHMS: BETTER SCIENCE
 - RESIDENT ENGINEER EXCHANGE PROGRAM



SAR GROUND DATA SYSTEMS
INTERNATIONAL COLLABORATION

SOLUTIONS - 3

- **GEOPHYSICAL PROCESSING/PRODUCTS**
 - INCORPORATION OF SCIENTIST'S ALGORITHMS INTO OPERATIONAL DATA SYSTEM: ALGORITHM VALIDATION, PRODUCT QUALITY ASSURANCE, MAINTENANCE
 - ASF GEOPHYSICAL PROCESSOR: EXPERIMENTAL SYSTEM TO GENERATE ICE MOTION, CONCENTRATION AND WAVE PRODUCTS
 - US JOINT ICE CENTER AND CANADIAN ICE CENTER HAVE BEGUN INITIAL EXCHANGE OF PRODUCTS